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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,177	09/09/2003	Shigeru Yokoi	2003_1280A	1639

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EXAMINER

BOYER, CHARLES I

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,177

Applicant(s)

YOKOI ET AL.

Examiner

Charles I. Boyer

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is responsive to applicants' response received September 29, 2005.

Claims 1-8 are currently pending with claim 8 being withdrawn from consideration.

Election/Restrictions

Applicants' affirmation of the election of claims 1-7 is acknowledged.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Skee, US 6,465,403.

Skee teaches a composition for cleaning microelectronic substrates comprising 5.1% tetramethylammonium hydroxide, 52% dimethyl sulfoxide, and 38.7% water (col. 33, example 18). As this reference meets all material limitations of the claims at hand, the reference is anticipatory.

Applicants have traversed this rejection on the grounds that the composition of Skee (U.S. 6,465,403) is for removing metallic and organic contamination from semiconductor wafer substrates without damaging the

Art Unit: 1751

integrated circuits, and does not teach a composition for removing a sacrifice layer in a process of forming a dual damascene structure. Though this is true, as a composition is claimed, the intended use of the composition is immaterial. Accordingly, the rejection is maintained.

3. Claims 1-5 are rejected under 35 U.S.C. 102(a) as being anticipated by Payne et al, US 6,417,112.

Payne et al teach a cleaning composition for a dual damascene system (see abstract). An example of such a composition comprises 2.3% trimethyl hydroxyethyl ammonium hydroxide, 47.7% water, and 50% dimethyl sulfoxide (col. 16, example D4). As this reference meets all material limitations of the claims at hand, the reference is anticipatory.

Applicants have traversed this rejection on the grounds that the composition of Payne et al. (U.S. 6,417,112) is for cleaning post etch residues and copper containing polymeric residues formed when copper is exposed in semiconductor device manufacturing, and does not teach a composition for removing a sacrifice layer in a process of forming a dual damascene structure. Though this is true, as a composition is claimed, the intended use of the composition is immaterial. Accordingly, the rejection is maintained.

Art Unit: 1751

4. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Hara et al, US 6,797,682.

Hara et al teach a resist stripper comprising 20% trimethyl hydroxyethyl ammonium hydroxide, 50% N-methyl pyrrolidone, and 25% water (col. 7, example 19). Another example comprises 14% tetramethylammonium hydroxide, 11% dimethyl sulfoxide, and 70% water (col. 6, example 3). As this reference meets all material limitations of the claims at hand, the reference is anticipatory.

Applicants have traversed this rejection on the grounds that the composition of Hara et al. (U.S. 6,797,682) is for stripping a photoresist layer and a titanium oxide in a production process of semiconductor integrated circuits, printed wiring boards and liquid crystals, and does not teach a composition for removing a sacrifice layer in a process of forming a dual damascene structure. Though this is true, as a composition is claimed, the intended use of the composition is immaterial. Accordingly, the rejection is maintained.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1751

6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hara et al, US 6,797,682.

Hara et al are relied upon as set forth above. With respect to claim 7, note that mixtures of quaternary ammonium compounds may be used (col. 2-3, lines 67-1). With respect to claim 6, the proportions taught by the reference overlap those presently claimed (col. 4, lines 20-35). Accordingly, it would have been obvious to one of ordinary skill in the art to formulate a stripping composition comprising the components and proportions of components presently claimed based on the teachings of the reference.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1751

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles I. Boyer whose telephone number is 571 272 1311. The examiner can normally be reached on M-F 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571 272 1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Charles I Boyer
Primary Examiner
Art Unit 1751